

## CLAIMS

What is claimed is:

1. Headlamp for vehicles with at least one planar luminous panel having a plurality of luminous-element chips, and with an optical element arranged in the beam path of the light beam emitted by the luminous panel, characterised in that the luminous-element chips (4) of the luminous panel (3, 21, 31) are arranged in a common recess (5) and in that the recess (5) on one side facing in the direction of light emission (8) has an edge (9, 25, 32) in such a way in a spatial arrangement to the luminous-element chips (4) that a predetermined luminance gradient ( $G$ ,  $G'$ ,  $G''$ ) in a light distribution ( $L$ ) of the headlamp is formed in the region of the edges (9, 25, 32).

2. Headlamp according to claim 1, characterised in that the recess (5) is trough-shaped with an edge wall (7, 7', 7'') which runs perpendicularly to the direction of light emission (8) of the luminous panel (3) and stands up from a bottom side (6) of the recess (5) and on whose side facing away from the bottom side (6) runs the edge (9).

3. Headlamp according to claim 1 or 2, characterised in that the edge (9) runs peripherally in a plane which is oriented perpendicularly to the main direction of emission of the luminous panel (3).

4. Headlamp according to any of claims 1 to 3, characterised in that the shape of the edge wall (7, 7') and/or edge (9) is such that, in combination with the optical element (2, 23, 34) mounted in front, a predetermined luminance distribution is produced.

5. Headlamp according to any of claims 1 to 4, characterised in that the edge wall (7, 7') and/or the edge (9) of the recess (5) has a rectangular or triangular or circle segment shape in a top view, and in that the edge (32, 32') has a break (33) for forming an asymmetrical light/dark boundary (LDB).

6. Headlamp according to any of claims 1 to 5, characterised in that several light-emitting diode chips (4) are arranged directly adjoining at least the edge wall (7, 7') comprising the edge (9) which produces the light/dark boundary (LDB).

7. Headlamp according to any of claims 1 to 6, characterised in that the recess (5) is filled with a light-converting luminescent material, such that the light emitted by the luminous-element chips (4) is converted to white light.

8. Headlamp according to any of claims 1 to 7, characterised in that the light-converting luminescent material is integrated in a cast material which covers the recess (5).

9. Headlamp according to any of claims 1 to 8, characterised in that the bottom side (6) of the recess (5) is reflectively coated.

10. Headlamp according to any of claims 1 to 9, characterised in that the luminous panel (3) is integrated in a luminous plate (1), the recess (5) being set in a front side (10) of the luminous plate (1) running perpendicularly to the direction of light emission (8).